

WHOI SSSG/MISO Facility continues to support deep-sea imaging & sampling/sensors for US academic researchers

2021 April - RV *Revelle* (RR2102) East Pacific Rise 9° 50'N

Arellano, Mullineaux, Fornari, Parnell-Turner, McDermott, Barreyre
Imaging on ROV *Jason* and AUV *Sentry* and MISO seafloor lander for biological, geological and hydrothermal research

2021 Nov. - RV *Revelle* Guaymas Basin (hopefully!) (November)

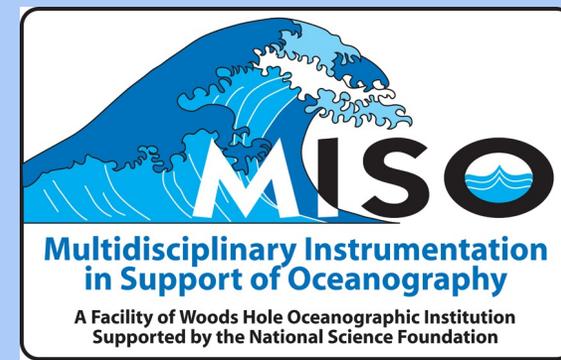
A. Michel - WHOI

MISO cameras on ROV *Jason* and AUV *Sentry* for methane sensor engineering studies and correlation of plume chemical sensing and high-resolution imaging

2021 Oct.-Dec. RV *Atlantis* – engineering and science verification cruises

MISO GoPro digital still camera on *Alvin* and MISO deep-sea batteries for URI lander





Ongoing Facility Work

Developed modular MISO system subsea cabling for multicorer configurations
(with and without cabled r/t data & imagery)

Developed autonomous time-lapse capability for LED lights and cameras

Refurbishment and recalibration of high-Temperature loggers for hydrothermal vent studies

2022 March (?) - RV *Atlantis/Alvin* East Pacific Rise 9° 50'N (2nd of 3 cruises)

Arellano, Mullineaux, Vetriani

Imaging on HOV *Alvin*, & MISO time lapse cameras for
Biological and microbial, hydrothermal research

2022 April(?) - RV *Atlantis/Alvin* East Pacific Rise 9° 50'N (2nd of 3 cruises)

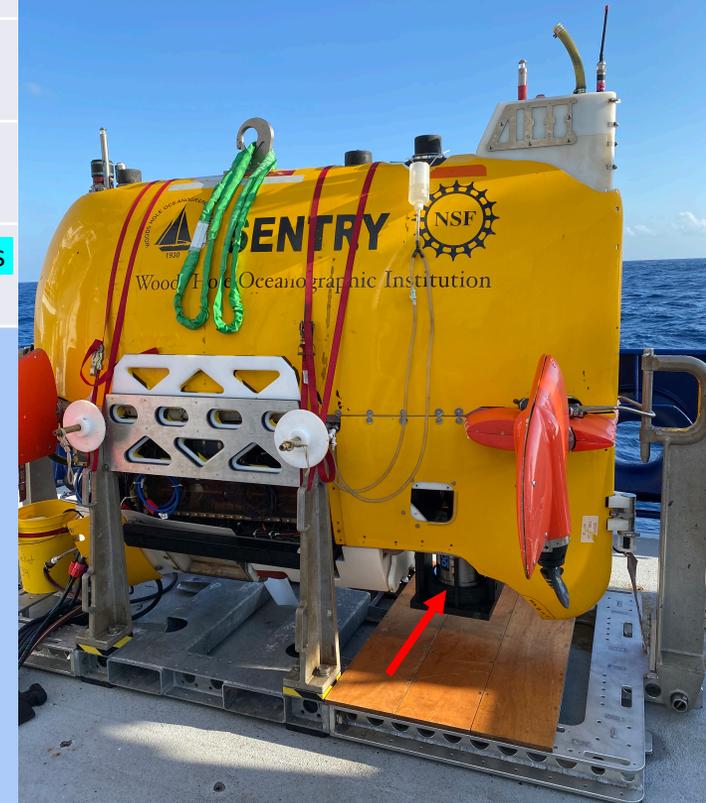
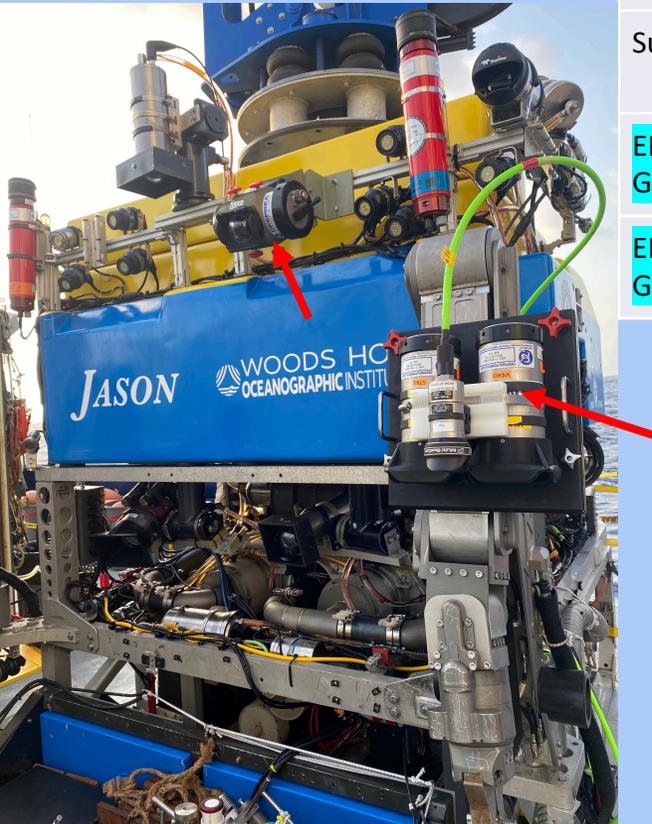
Fornari, Parnell-Turner, McDermott, Barreyre

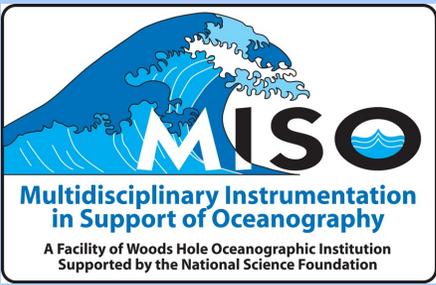
Imaging on HOV *Alvin*, MISO seafloor lander & time lapse cameras
for biological, geological and hydrothermal research

TBD - Assistance with multicoring objectives for other field research programs in 2022
(e.g., L. Levin and M. Joy)

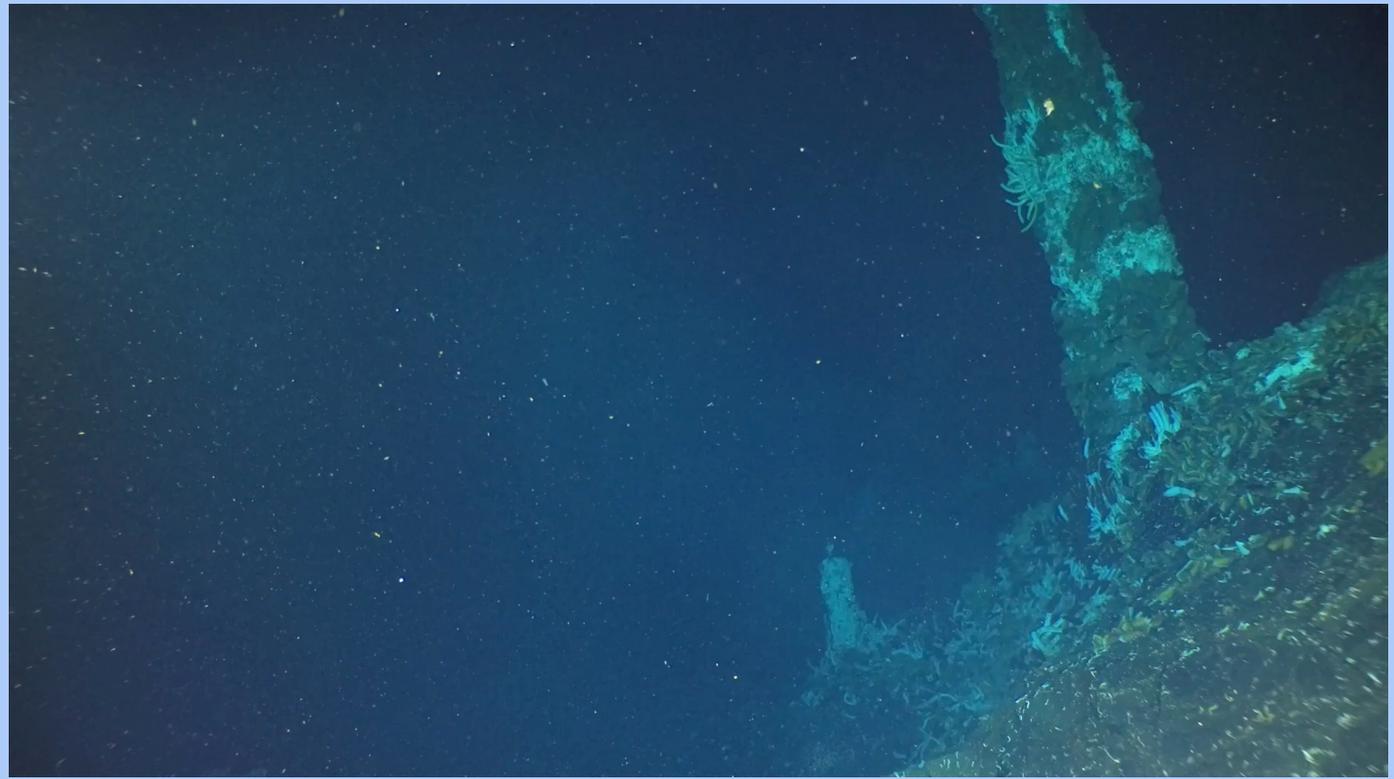
MISO deep-sea digital still and video cameras used on RR2102 – EPR 9 50'N (>25 TB of MISO imaging data for all vehicles/landers)

Camera Type	Camera model	Where on vehicle	Primary use	Data format
MISO-OIS 24MP	Nikon D3300+ Nikkor 20mm lens	Down-looking on Jason	2D mapping of in transit transects	24MP Stills every 5 secs
MISO-OIS 24MP	Nikon D3300+ Nikkor 20mm lens	Down-looking on Sentry	2D mapping of area boxes and transects	24MP Stills every 5 secs
Sulis 4k on Jason	Sulis Z70	Forward-looking on Jason frame	3D mapping	4K video & 1080p video
EPO-MISO GoPro	GoPro Hero 4	Jason Port Manipulator	3D mapping	4K video 24fps
EPO-MISO GoPro	GoPro Hero 4	Jason Port Manipulator	3D mapping	12 MP Stills every 5 sec

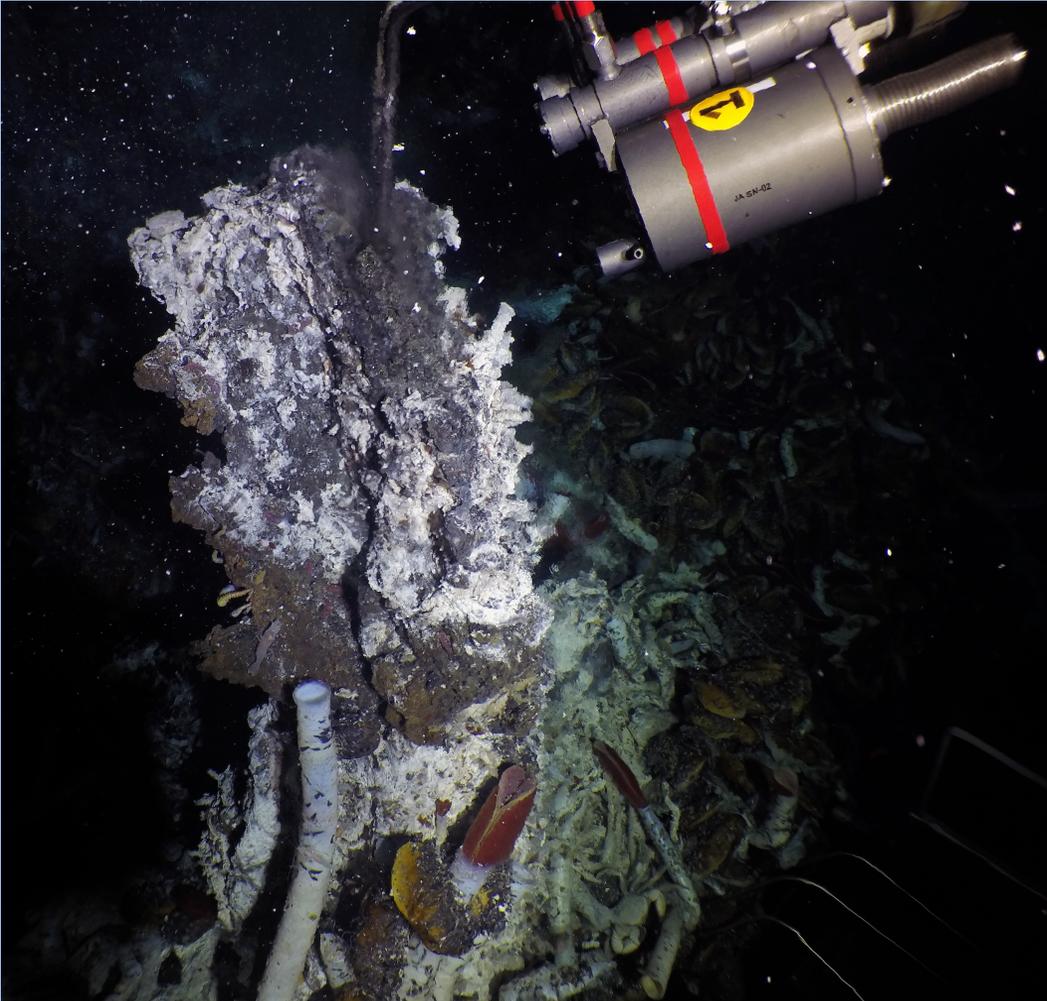




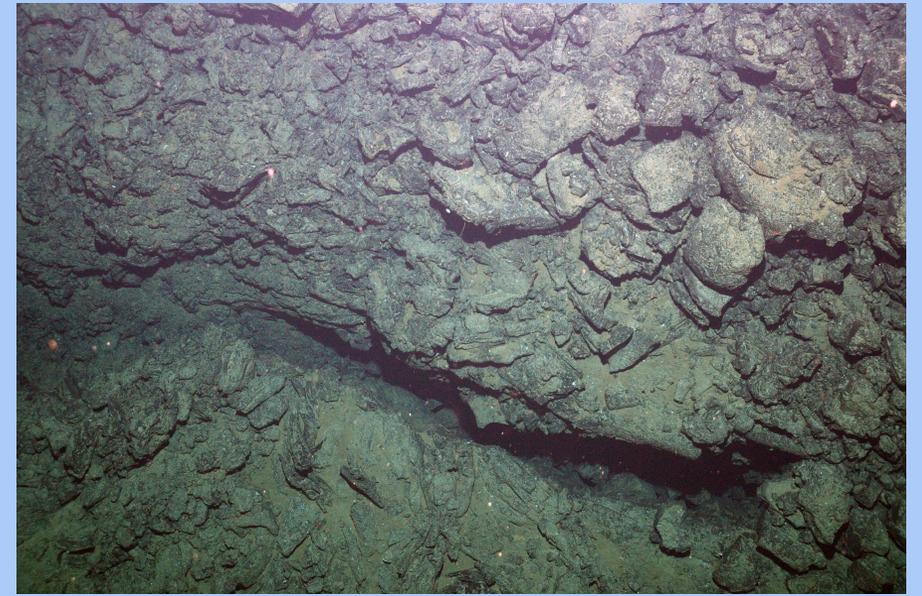
MISO GoPro 4k video
from Lander

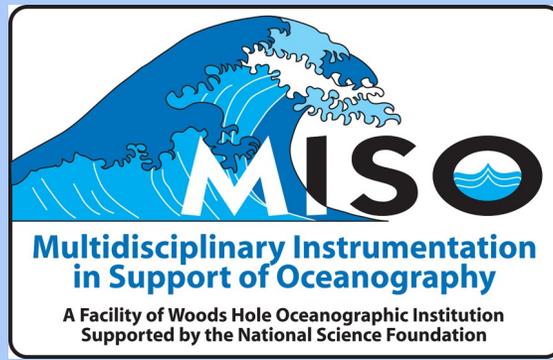


MISO GoPro 12MP still on
Jason manipulator



MISO OIS 24MP still
on *Sentry*





2022 -> MISO Facility Plans

- Continued support of researchers needing deep-sea imaging capabilities
- Routine maintenance/repair of MISO imaging and sensor systems
- TBD – supplemental cameras for *Alvin*, *Jason* and *Sentry* as well as for use on other deep submergence vehicles used by academic researchers
- Development of next generation MISO ‘GoPro’ type camera – flexible (video and stills) small, modular, self-powered but with newer imaging module and higher resolution for stills
- Collaboration with NOAA Ocean Exploration (OECI) for testing and developing a routine deep-sea camera capability for the *Okeanos Explorer* using the MISO *TowCam* system
- Working with WHOI-NDSF (A. Bowen) to develop a transition structure/plan for MISO imaging capabilities to continue to serve US researchers into the future.